

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-8 (canceled).

9. (New) A method for manufacturing a low-sintering PZT-based piezoelectric ceramic material, comprising: mixing together ions added in the form of powdered oxides or powdered carbonates as starting compounds, and calcining the starting compounds to form the piezoelectric ceramic material, wherein after calcining the starting compounds, lithium in ionic form is added to the mixture in an amount in the range of 0.01 to 0.1 wt.% in relation to the weight of the PZT ceramic.

10. (New) The method according to Claim 9, wherein lithium is added in the form of Li_2CO_3 or LiNO_3 .

11. (New) The method according to Claim 9, wherein PZT compounds simply doped using rare earth metals are used as the PZT base materials.

12. (New) The method according to Claim 11, wherein the rare earth metal is La or Nb.

13. (New) The method according to Claim 10, wherein PZT compounds simply doped using rare earth metals are used as the PZT base materials.

14. (New) The method according to Claim 9, wherein PZT compounds doped using combinations of elements selected from the group consisting of Ca, La, Nb, Fe, and Cu are used as the PZT base materials.

15. (New) The method according to Claim 10, wherein PZT compounds doped using combinations of elements selected from the group consisting of Ca, La, Nb, Fe, and Cu are used as the PZT base materials.

16. (New) The method according to Claim 14, wherein a low-sintering piezoelectric ceramic material having significantly increased elongation values compared to lithium-free materials is obtained.

17. (New) The method according to Claim 15, wherein a low-sintering piezoelectric ceramic material having significantly increased elongation values compared to lithium-free materials is obtained.

18. (New) The method according to Claim 1, wherein a sintering temperature in the range of 850°C to 950°C is employed.

19. (New) The method according to Claim 10, wherein a sintering temperature in the range of 850°C to 950°C is employed.

20. (New) The method according to Claim 18, wherein a sintering temperature of about 900° C is employed.

21. (New) A piezoelectric multilayer actuator having internal electrodes made of pure silver, the actuator comprising a PZT-based low-sintering piezoelectric ceramic material according to Claim 1.

22. (New) A motor vehicle injection system comprising the piezoelectric multilayer actuator according to Claim 21.